

LITERATURE CITED

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OCCURRENCE OF PUPAE OF *ALTICA TOMBACINA* MANN. UNDER BARK IN
BRITISH COLUMBIA

In August, 1953, I had an opportunity to collect insects in the mountainous country north of Squamish, British Columbia. I had torn a large section of loose bark three inches thick from a Douglas fir log and was surprised to see numerous yellow chrysomelid pupae scattered over the sawdust-like surface. The pupae were resting on a thick bed of moist, coarse, chewed wood that had accumulated from the excavations of many large wood-boring larvae. I thought that possibly the pupae were those of the leaf beetle that is common on fireweed, *Epilobium angustifolium* (L.), in the area. There were hundreds of plants of this species a short distance from the log, and their leaves had been noticeably chewed by beetle larvae. Several days later my supposition proved to be correct. Pupae which I had placed on top of the sawdust-like material in a glass-topped tin matured to the adults of the flea beetle *Altica tombacina* Mann. (= *evicta* Lec.).

In my collecting experience I had not seen chrysomelid pupae under bark before. The literature on the habits of chrysomelid larvae does not reveal a parallel case. Packard,¹ referring to the alder flea beetle (*Haltica alni* Harris), stated, "It is evident that in nature the larva falls to the ground to transform, the pupae entering the ground." Woods² wrote concerning three species of *Altica* in Maine, "When full grown, the larvae enter the ground where they transform . . .," and further concerning a fourth species, "The larvae when full fed enter the ground to pupate." These references demonstrate the usual habits of *Altica* larvae and pupae.

It is likely that the larvae were forced to wander away from the unsuitable dry sandy soil below their host plants and found a favorable medium to pupate on the moist layer of chewed wood, well protected from drying by the thick layer of bark.

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¹Packard, A. S. 1890. Fifth report of the United States Entomological Commission. U. S. Dept. Agr., Washington.

²Woods, W. C. 1918. The biology of Maine species of *Altica*. Maine Agr. Expt. Sta. Bull. 273, pp. 149-204.